

MTA Facility Upgrades & MICE Cavity Installation

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- Surface building for cryogenic plant
- Underground experimental hall
- Storage unit in parking lot
- Control/DAQ area in Linac Gallery
- Other on-site locations used
 - Lab-6 (MICE cavity assembly)
 - A0 (modular cavity assembly)

Recent Upgrades

- Continued in parallel with experimental program
- 805-MHz RF control software
- 201-MHz RF control hardware and software
- Overhead crane in the hall
- Additional instrumentation
- Services for MICE cavity
- Larger storage unit
- New desks for control room



Operations Challenge

- Distributed footprint
 - Electrical power
 - cryo plant & exp hall from Booster
 - beamline magnet supplies from Linac
 - RF controls/DAQ in Linac
 - RF power from Linac
 - Cooling water from Central Utility Building
- Critical subsystems lost due to maintenance during accelerator complex shutdown
- Periodic testing/maintenance required for various systems in the hall
 - safety interlocks
 - beamline magnet controls
 - crane/manlift inspection
 - cryo plant maintenance
- Superconducting solenoid needs retraining if warmed up

MICE Cavity Installation

- Dominates the hall now
 - Large vessel
 - Required overhead crane installation
 - Vacuum system and instrumentation
 - Water cooling and instrumentation
 - RF coax and instrumentation
 - Tuner controls
 - Radiation and light detectors



Lab-6 Assembly Summary



Next Step: Reconfiguration for B-field Run

- Preparations in progress
- Set up clean room environment
- Inspect/document cavity interior and coupler loops
- Test window spacers (for beam test)
- Install Be windows
- Install missing actuator
- Modify vacuum system
- Retrain solenoid to full field
- Move vessel against solenoid
- Reconfigure coax plumbing
- Expect operation in B-field January



- Facility is busier and more efficient than ever before
- Infrastructure in place to support experimental program
 - MICE cavity (reconfiguration in progress)
 - Modular cavity (assembled, in hall)
 - Dielectric-loaded HPRF cavity (in preparation)